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1.ABSTRACT

The project “**Apply Leftover Food to Poor**” developed using **Salesforce** is a cloud-based system designed to collect, manage, and distribute surplus food from individuals, restaurants, and events to those in need. This project aims to minimize food wastage while ensuring timely delivery to underprivileged people through a transparent and traceable process.

Using Salesforce’s CRM and automation capabilities, the system maintains donor details, food collection records, delivery requests, and volunteer tracking. The platform integrates standard and custom objects, validation rules, flows, and dashboards to automate the workflow — from food donation registration to delivery confirmation.

By leveraging Salesforce’s secure and scalable cloud infrastructure, the project provides real-time updates on available food stock, pickup schedules, and delivery status.

Automation ensures that food is collected and distributed efficiently, reducing manual effort and improving accountability.

Ultimately, this system promotes social responsibility by connecting donors, volunteers, and beneficiaries through technology — making the process of applying leftover food to the poor more systematic, reliable, and impactful.

2.INTRODUCTION

Food wastage is a global issue that coexists with hunger. Large quantities of edible food are discarded daily by households, restaurants, and events, while millions suffer from food insecurity. The “**Apply Leftover Food to Poor**” project seeks to bridge this gap by developing a Salesforce-based cloud application that connects food donors and distribution volunteers in an efficient network.

Salesforce, a leading CRM platform, enables efficient management of data, users, and workflows in a secure cloud environment. Through Salesforce’s low-code tools, this project automates donor registration, food request tracking, pickup scheduling, and reporting.

The application is designed for NGOs, community kitchens, and volunteers who coordinate the collection and distribution of surplus food. It allows donors to register leftover food details, volunteers to confirm pickups, and recipients to acknowledge deliveries. Managers can monitor all operations through reports and dashboards for complete transparency.

To begin, a **Salesforce Developer Org** is created at <https://developer.salesforce.com/signup>. Custom objects like “Donor,” “Food Collection,” “Delivery,” and “Feedback” are created using **Object Manager**. Each object is configured with relationships, validation rules, and automation flows.

This system replaces manual coordination with a cloud-based, automated model — ensuring that leftover food reaches the needy safely and efficiently.

3.OBJECTIVES

The main objectives of the project are:

- To create a Salesforce-based application for managing surplus food collection and distribution.
- To automate workflows for donor registration, food pickup, and delivery confirmation.
- To ensure transparency and accountability in food distribution using reports and dashboards.
- To utilize validation and matching rules for data integrity and error-free record management.
- To reduce manual coordination and improve efficiency using Salesforce Flows and Apex automation.
- To promote a sustainable and humanitarian approach to leftover food management

4. SYSTEM REQUIREMENTS

4.1 HARDWARE REQUIREMENTS:

- Processor: Intel Core i5 or equivalent
- RAM: 8 GB or higher
- Storage: 256 GB SSD or more
- Internet: Stable high-speed connection

4.2 SOFTWARE REQUIREMENTS:

- Operating System: Windows 10/11, macOS, or Linux
- Salesforce Platform: Developer Edition (free signup)
- Browser: Chrome or Edge (latest version)
- No local installations required; Salesforce is entirely cloud-based

5. MODULES OF THE SYSTEM:

The project consists of the following Salesforce modules:

1. Donor Module:

Manages donor information including name, contact number, address, and food type. Duplicate rules ensure no duplicate donor entries.

2. Food Collection Module:

Tracks details of donated food (quantity, category, expiry time) and schedules pickups. Validation rules ensure the food is safe for delivery within valid time.

3. Volunteer Module:

Assigns volunteers to collect and deliver food. Lookup relationship connects volunteers to food collection records.

4. Delivery Module:

Tracks distribution details — delivery date, recipient location, and delivery status (Pending, Completed). Automation updates records on completion.

5. Feedback Module:

Collects ratings and suggestions from donors and recipients to improve service quality

6. TECHNOLOGIES USED

1. **Salesforce Platform:** For building the CRM-based cloud application.
2. **Apex Triggers:** Used to automate calculations such as assigning volunteers and updating delivery status.
3. **Flows:** For automating notifications, field updates, and data synchronization.
4. **Validation Rules:** To ensure correct data entry (e.g., valid food expiry time).
5. **Reports and Dashboards:** For monitoring donations, deliveries, and volunteer performance.
6. **Email Alerts:** Automatically notify donors and volunteers of food pickup and delivery completion.

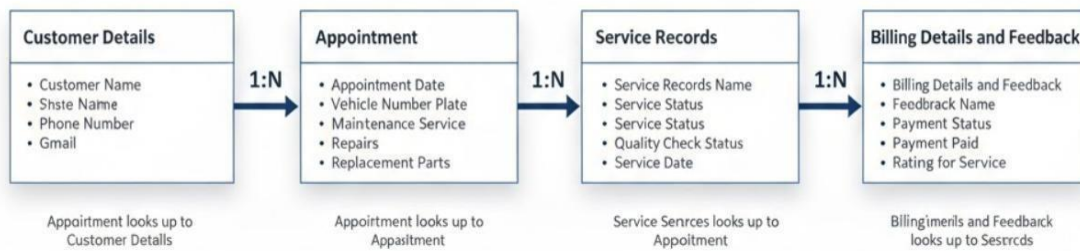
7. SYSTEM DESIGN

ER DIAGRAM

Entity–Relationship (ER) Diagram:

- **Donor → Food Collection:** One donor can contribute multiple food donations.
- **Food Collection → Volunteer:** Each collection is assigned to a specific volunteer.
- **Volunteer → Delivery:** A volunteer can handle multiple deliveries.
- **Delivery → Feedback:** Each delivery is followed by a feedback entry.

This relational model ensures complete data traceability across the system.



8. WORKFLOW DESCRIPTION

- **Donor Registration:**

Donors register food details through a form (food name, quantity, expiry time, pickup address).

- **Food Collection Scheduling:**

System automatically assigns an available volunteer using an Apex trigger based on location and availability.

- **Pickup and Delivery:**

Volunteers collect the food and mark the status as “Picked Up.” Upon delivery, they update the record to “Delivered.”

- **Notification System:**

Automated email alerts are sent to donors confirming food collection and delivery.

- **Feedback Submission:**

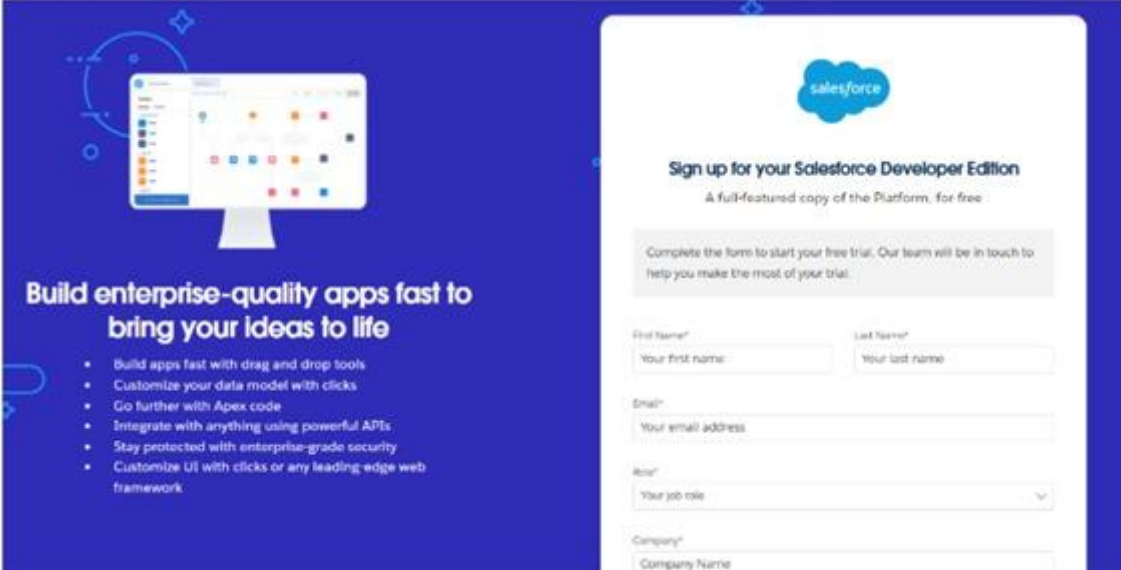
After successful delivery, recipients or donors provide feedback through a Salesforce form.

- **Reporting:**

Managers can track real-time statistics like total food collected, total deliveries, and donor participation through dashboards.

9.IMPLEMENTED STEPS

1.Creating Developer Account:



The screenshot shows the Salesforce Developer Edition sign-up page. On the left, there's a blue background with a white monitor icon displaying a Salesforce interface. Below it, the text reads "Build enterprise-quality apps fast to bring your ideas to life". A bulleted list follows: "Build apps fast with drag and drop tools", "Customize your data model with clicks", "Go further with Apex code", "Integrate with anything using powerful APIs", "Stay protected with enterprise-grade security", and "Customize UI with clicks or any leading-edge web framework". On the right, there's a white sign-up form with the Salesforce logo at the top. The heading is "Sign up for your Salesforce Developer Edition" with a subtext "A full-featured copy of the Platform, for free". Below this, a message says "Complete the form to start your free trial. Our team will be in touch to help you make the most of your trial." The form fields include "First Name*", "Last Name*", "Email*", "Role*", and "Company*", each with a corresponding input field.

Fig:1.1 Developer Account

2.Account Activation:



The screenshot shows the Salesforce Developer Edition account activation page. At the top, there's a purple banner with three cartoon astronauts and the text "Welcome to your Developer Edition". Below the banner, the text reads "Thanks for signing up for a Developer Edition. Now you can start building on Salesforce for free and get hands-on with Agentforce and Data Cloud." followed by "There's just one more step. Use the following link to reset the password for your Developer Edition. This link expires in 24 hours." Below this text is a blue button labeled "Reset Password". Under the button, it says "To easily log in later, save this URL:" followed by the URL <https://orgfarm-6f4fdc5d61-dev-ed.develop.my.salesforce.com>. At the bottom, it says "Here's the username for your Developer Edition:".

Fig:2.1 Verifying Account

3. Object Creation:

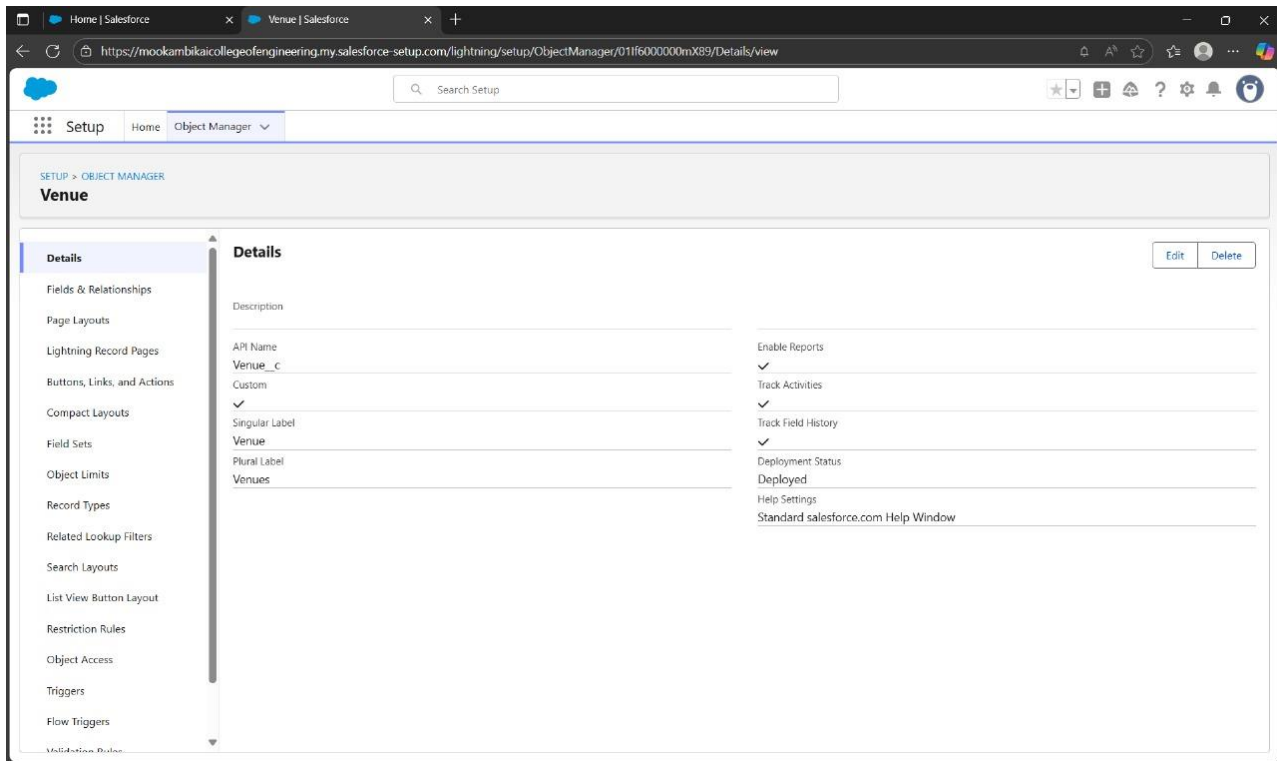


Fig :3.1 Creation of Venue details Object

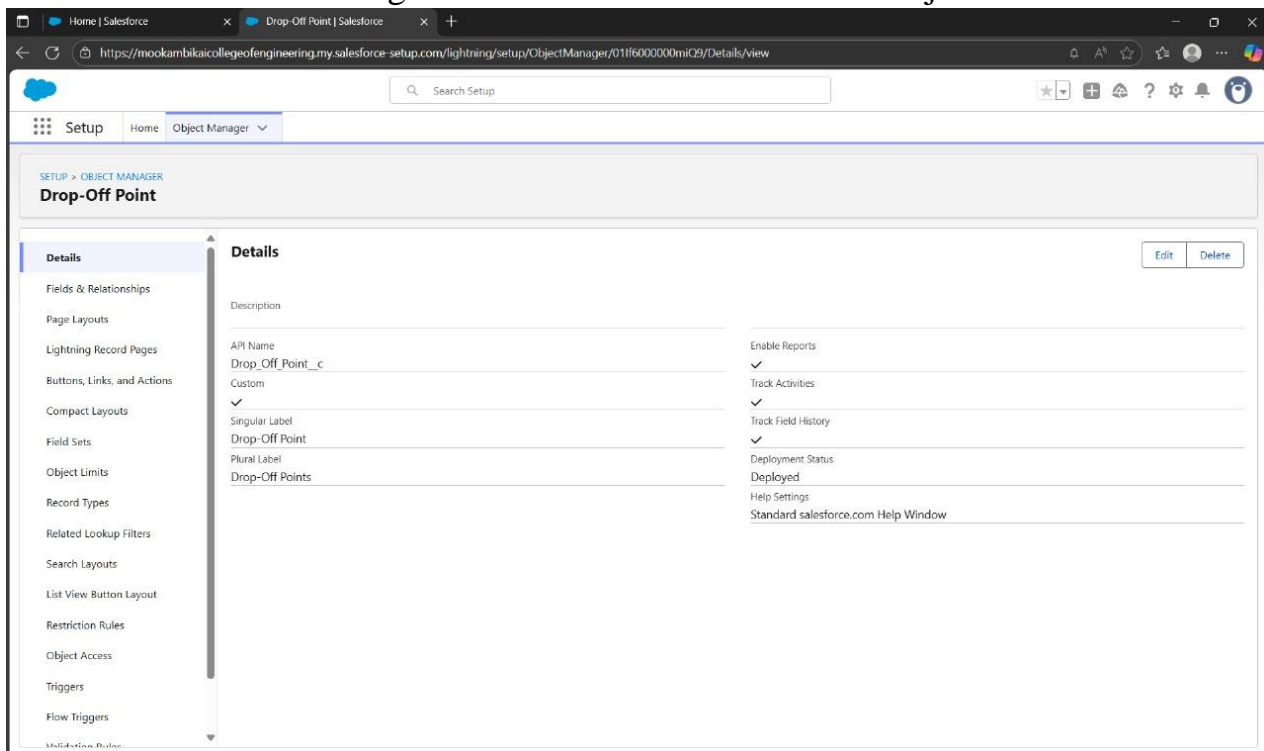


Fig :3.2 Creation of Drop off point Object

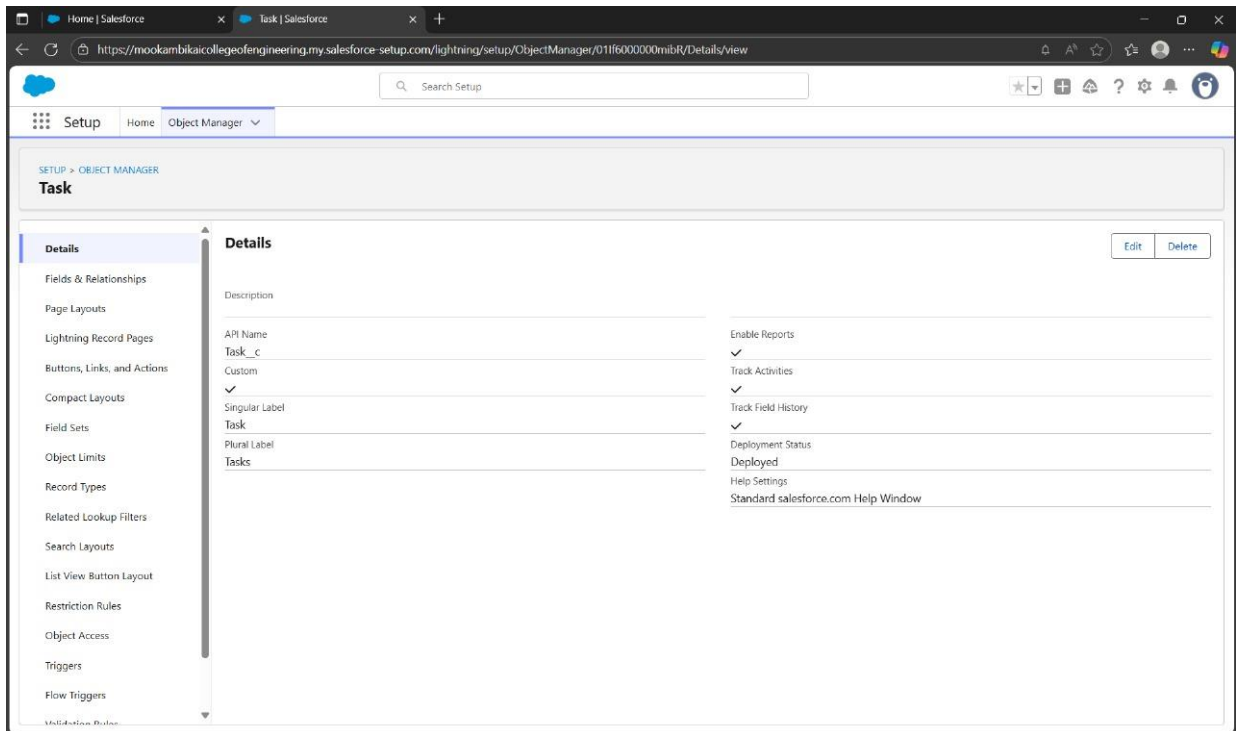


Fig :3.3 Creation of Task records Object

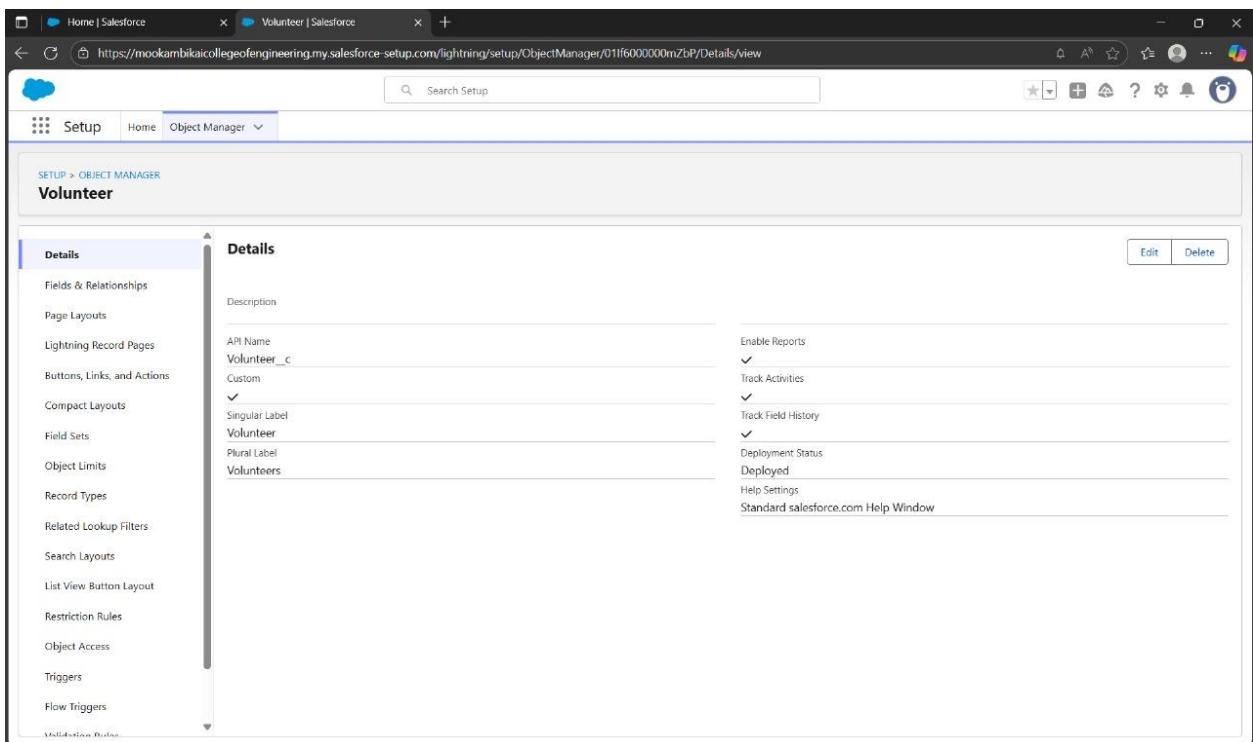


Fig :3.4 Creation of Volunteer details Object

4. Tabs:

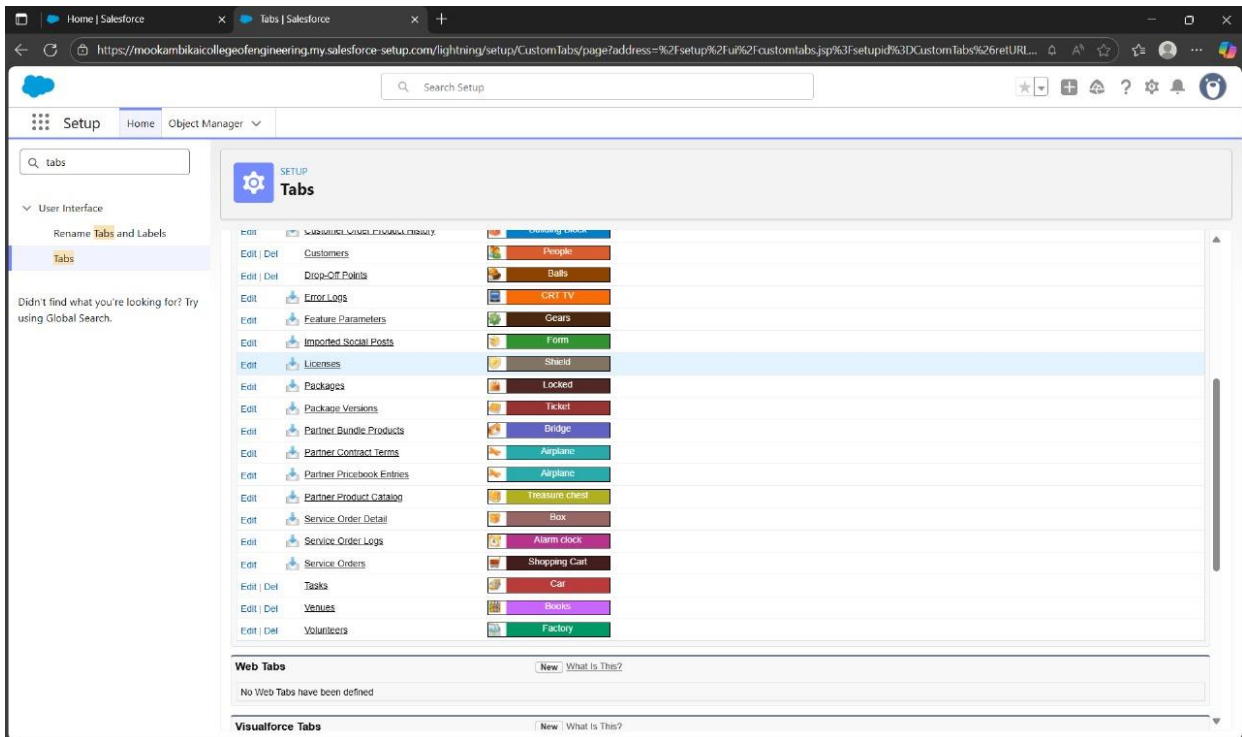


Fig :4.1 Creation of a Custom Tab

5. The Lightning App:

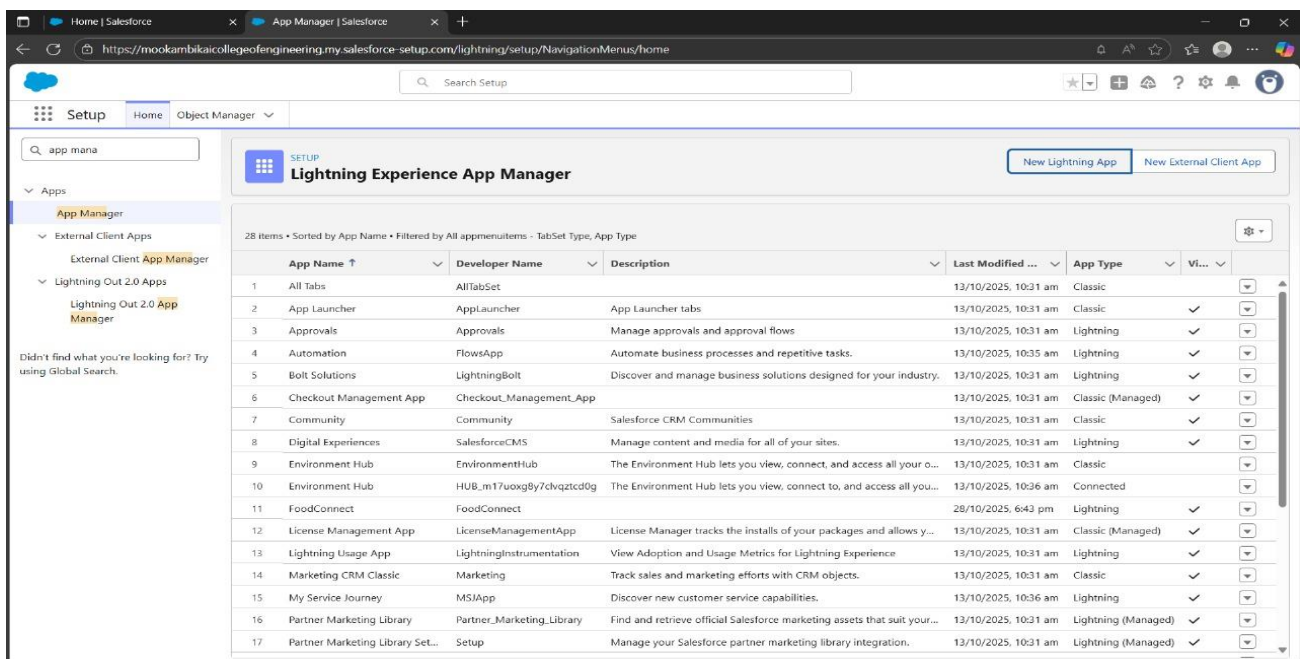
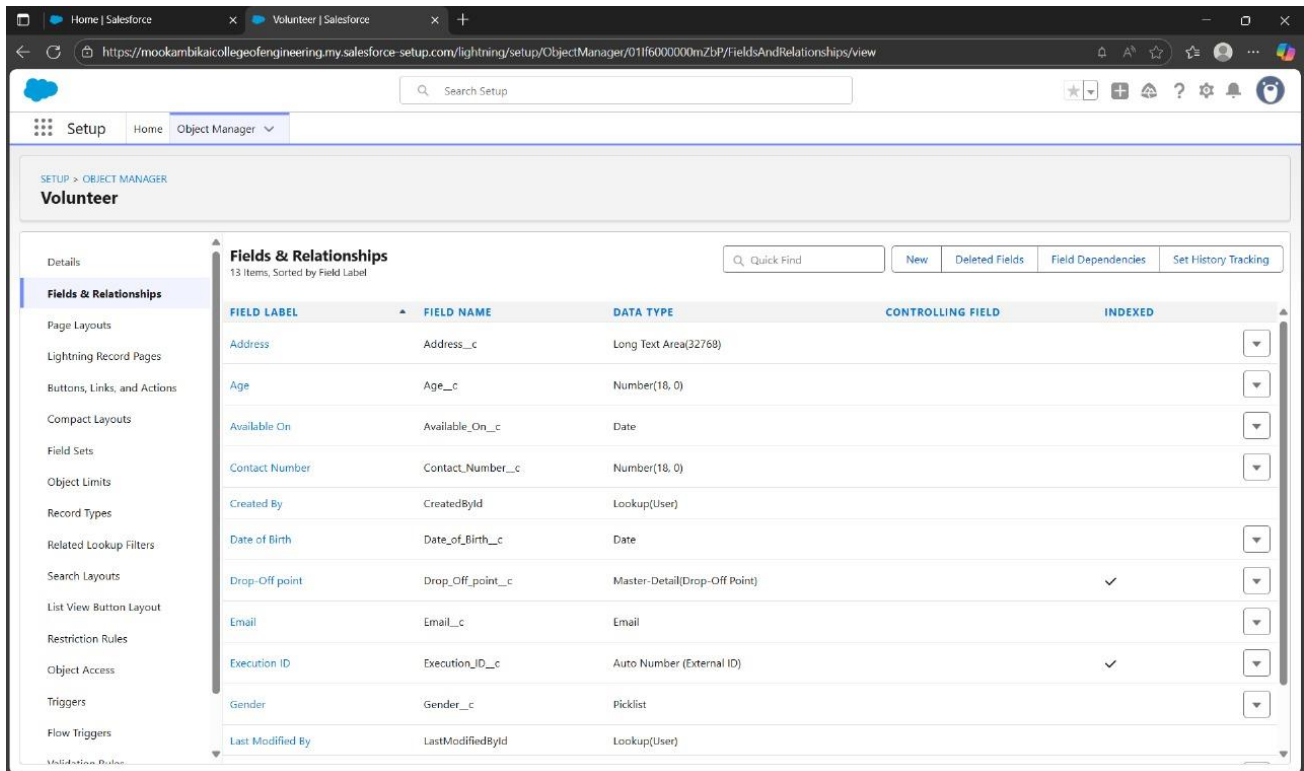


Fig :5.1 Leftover Food To Poor Application

6.Fields:



SETUP > OBJECT MANAGER
Volunteer

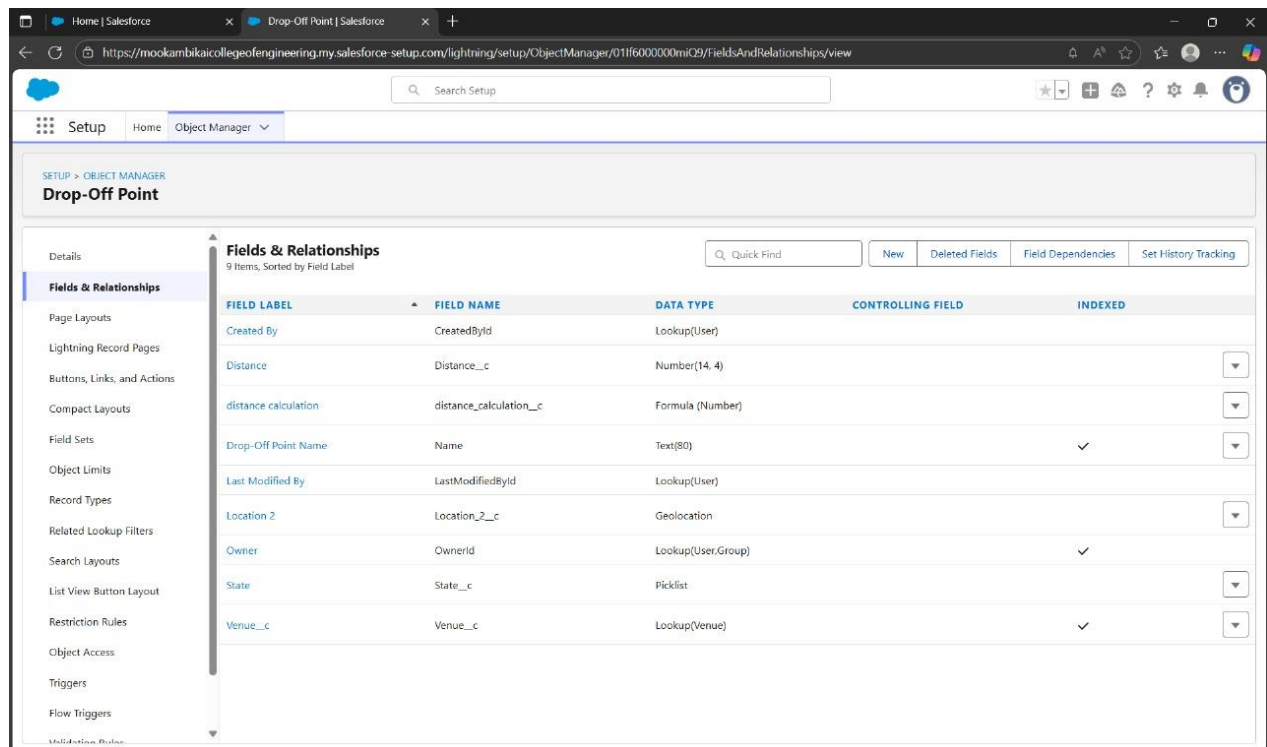
Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Object Access
Triggers
Flow Triggers

Fields & Relationships
13 Items, Sorted by Field Label

Q Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Address	Address__c	Long Text Area(32768)		
Age	Age__c	Number(18, 0)		
Available On	Available_On__c	Date		
Contact Number	Contact_Number__c	Number(18, 0)		
Created By	CreatedById	Lookup(User)		
Date of Birth	Date_of_Birth__c	Date		
Drop-Off point	Drop_Off_point__c	Master-Detail(Drop-Off Point)		✓
Email	Email__c	Email		
Execution ID	Execution_ID__c	Auto Number (External ID)		✓
Gender	Gender__c	Picklist		
Last Modified By	LastModifiedById	Lookup(User)		

Fig :6.1 Creation of fields for the Customer Details object



SETUP > OBJECT MANAGER
Drop-Off Point

Details
Fields & Relationships
Page Layouts
Lightning Record Pages
Buttons, Links, and Actions
Compact Layouts
Field Sets
Object Limits
Record Types
Related Lookup Filters
Search Layouts
List View Button Layout
Restriction Rules
Object Access
Triggers
Flow Triggers

Fields & Relationships
9 Items, Sorted by Field Label

Q Quick Find New Deleted Fields Field Dependencies Set History Tracking

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Created By	CreatedById	Lookup(User)		
Distance	Distance__c	Number(14, 4)		
distance calculation	distance_calculation__c	Formula (Number)		
Drop-Off Point Name	Name	Text(80)		✓
Last Modified By	LastModifiedById	Lookup(User)		
Location 2	Location_2__c	Geolocation		
Owner	OwnerId	Lookup(User,Group)		✓
State	State__c	Picklist		
Venue__c	Venue__c	Lookup(Venue)		✓

Fig :6.2 Creation of fields for the Appointments object

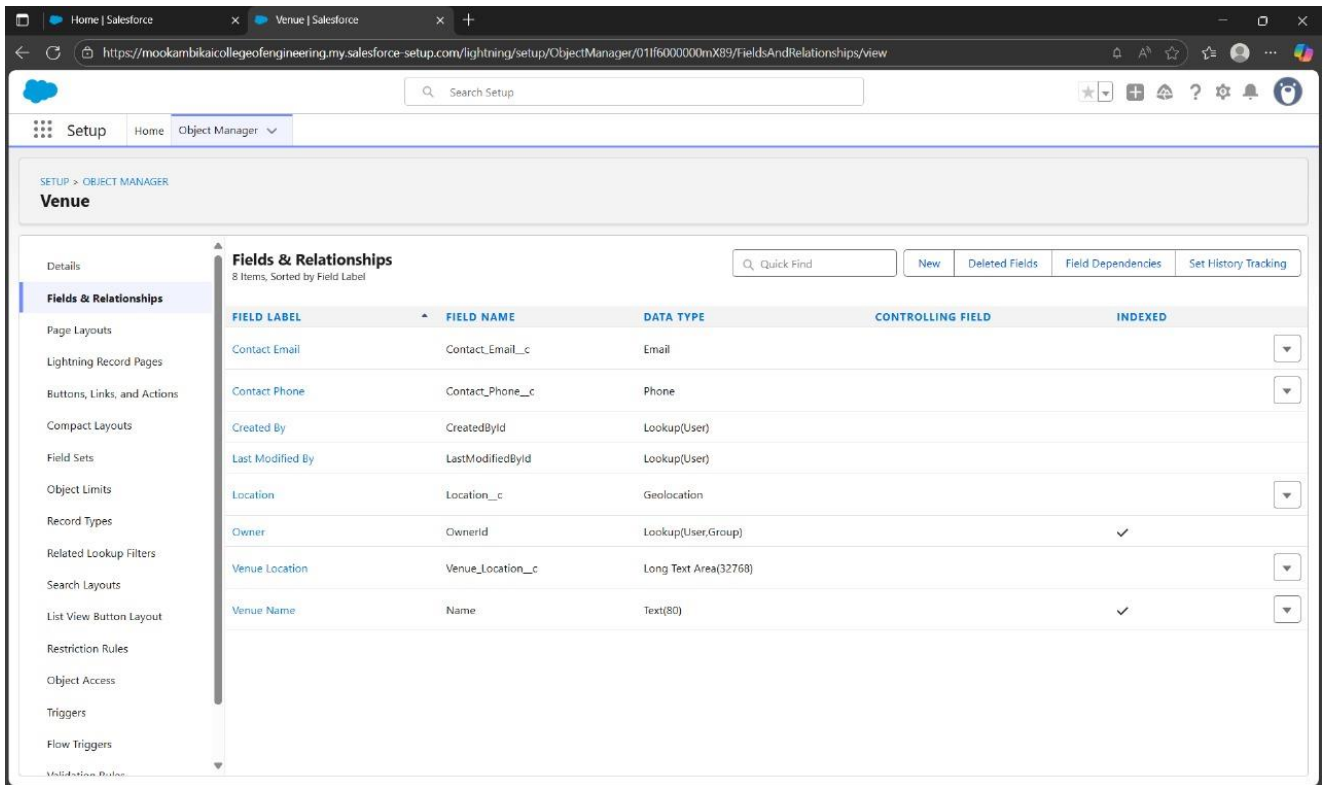


Fig :6.3 Creation of fields for the contact records object

7.FLOW:

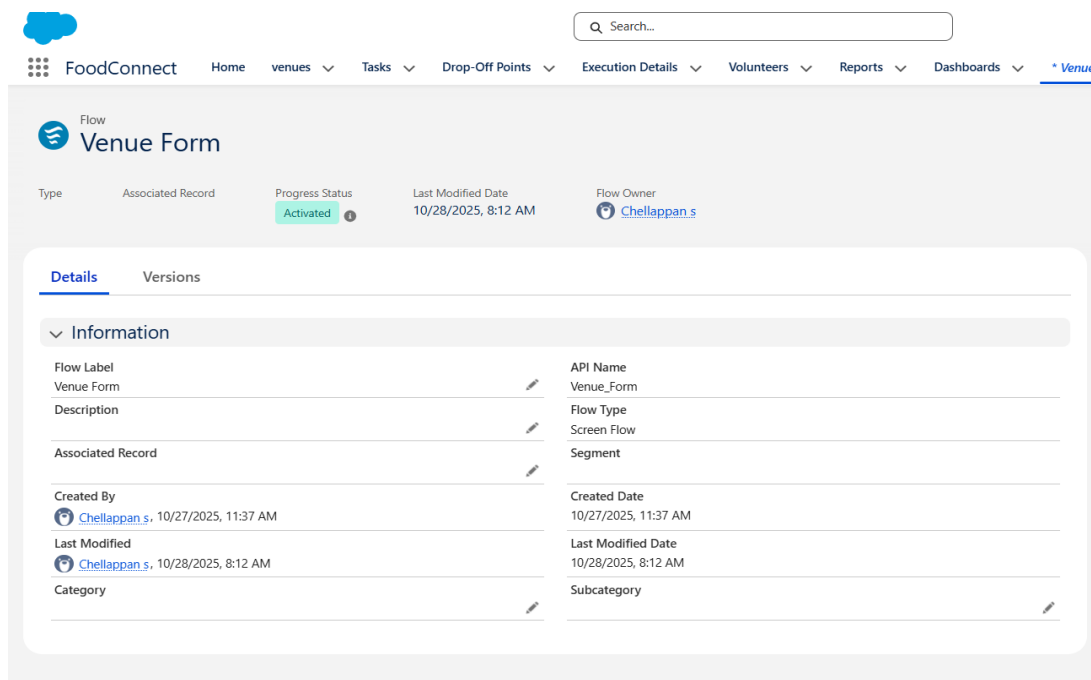


Fig :7.1 create venue flow

8.Trigger:

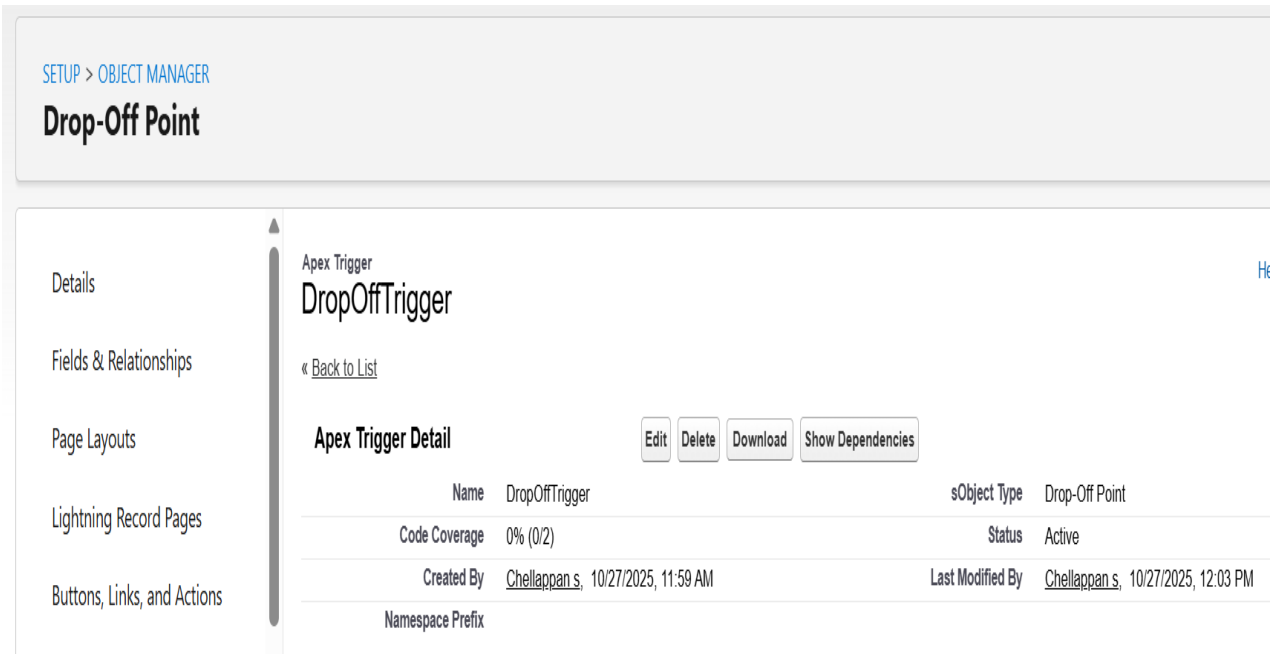


Fig :8.1 Create a Trigger in Object details

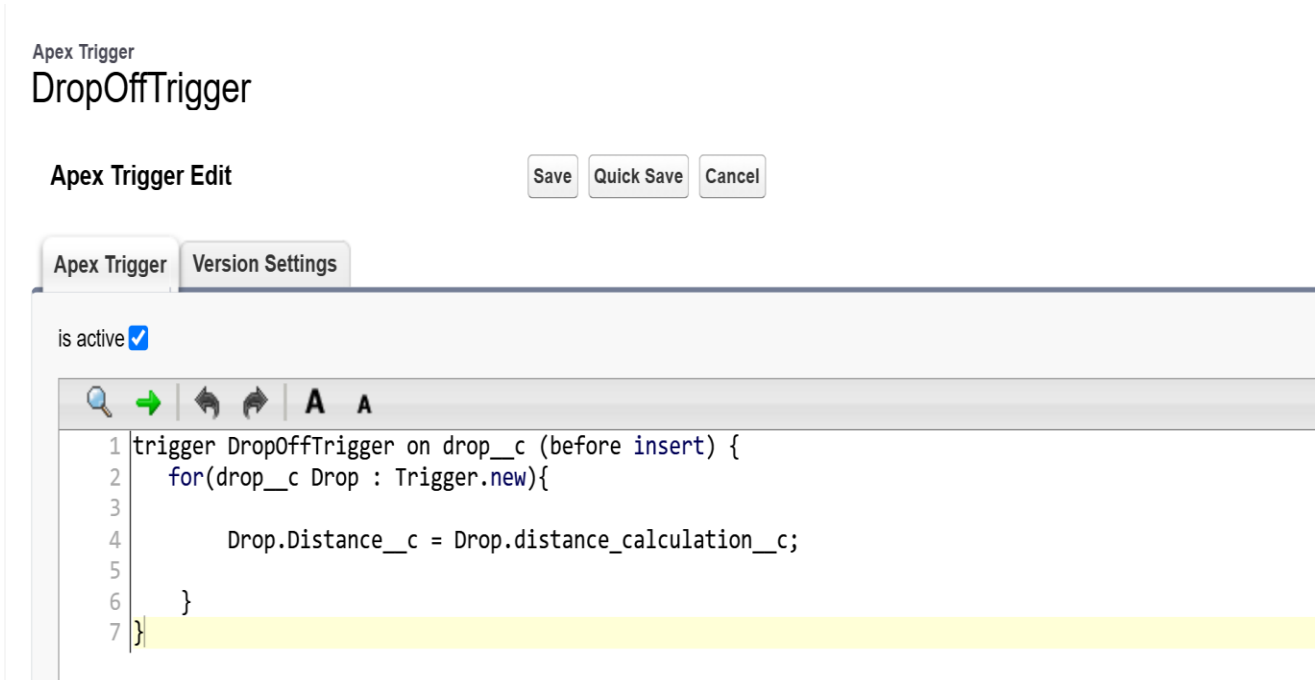


Fig :8.2 Apply Trigger Code in dropOff

9.Profile:

Users

User
Iksha Foundation Chellappan s
[User Profile Help for this Page](#)

[Permission Set Assignments \[0\]](#) |
[Permission Set Assignments Activation Required \[0\]](#) |
[Permission Set Group Assignments \[0\]](#) |
[Permission Set License Assignments \[0\]](#) |
[Personal Groups \[0\]](#) |
[Public Group Membership \[1\]](#) |
[Queue Membership \[0\]](#) |
[Team \[0\]](#) |
[Managers in the Role Hierarchy \[0\]](#) |
[OAuth Apps \[0\]](#) |
[Third-Party Account Links \[0\]](#) |
[Built-in Authenticators \[0\]](#) |
[Installed Mobile Apps \[0\]](#) |
[Authentication Settings for External Systems \[0\]](#) |
[Login History \[0+\]](#) |
[User Provisioning Accounts \[0\]](#)

User Detail
[Edit](#)
[Sharing](#)
[Reset Password](#)
[Freeze](#)
[View Summary](#)

Name	Iksha Foundation Chellappan s	Role	
Alias	iksh	User License	Salesforce Platform
Email	chellappanchellappan02@gmail.com [Verify] i	Profile	NGOs_profile
Username	chellappanchellappan02@gmail.com	Active	<input checked="" type="checkbox"/>
Nickname	User17616563138391690452 i	Marketing User	<input type="checkbox"/>
Title		Offline User	<input type="checkbox"/>
Company		Knowledge User	<input type="checkbox"/>
Department		Flow User	<input type="checkbox"/>
Division		Service Cloud User	<input type="checkbox"/>
Address	23 appar street Nemathannatti	Site.com Contributor User	<input type="checkbox"/>

Fig :9.1 IKSHA Profile

Users

User
NSS NSS
[User Profile Help for this Page](#)


[Permission Set Assignments \[0\]](#) |
[Permission Set Assignments Activation Required \[0\]](#) |
[Permission Set Group Assignments \[0\]](#) |
[Permission Set License Assignments \[0\]](#) |
[Personal Groups \[0\]](#) |
[Public Group Membership \[1\]](#) |
[Queue Membership \[0\]](#) |
[Team \[0\]](#) |
[Managers in the Role Hierarchy \[0\]](#) |
[OAuth Apps \[0\]](#) |
[Third-Party Account Links \[0\]](#) |
[Built-in Authenticators \[0\]](#) |
[Installed Mobile Apps \[0\]](#) |
[Authentication Settings for External Systems \[0\]](#) |
[Login History \[0+\]](#) |
[User Provisioning Accounts \[0\]](#)

User Detail
[Edit](#)
[Sharing](#)
[Reset Password](#)
[Freeze](#)
[View Summary](#)

Name	NSS NSS	Role	
Alias	nnss	User License	Salesforce Platform
Email	chellappanchellappan02@gmail.com [Verify] i	Profile	NGOs_profile
Username	chellappanchellappan02@gmail.com	Active	<input checked="" type="checkbox"/>
Nickname	User17616579547163430101 i	Marketing User	<input type="checkbox"/>
Title		Offline User	<input type="checkbox"/>
Company		Knowledge User	<input type="checkbox"/>
Department		Flow User	<input type="checkbox"/>
Division		Service Cloud User	<input type="checkbox"/>
Address	23 appar street Nemathannatti	Site.com Contributor User	<input type="checkbox"/>

Fig :9.2 NSS Profile

10. Report:



SETUP

Custom Report Types

Custom Report Type

All Custom Report Types

New Custom Report Type

⚙️

↺

↻

⏴

14 items • Sorted by Label • Filtered by All custom report types • Updated a few seconds ago

Label ↑	Name	Description	Category	Cre...	Created Date	
Drop-Off Points with Volunteers with Execution ...	Drop_Off_Points_with_Volunteers_with_Execution_...	Drop-Off Points with Volunteers with Execution De...	Other Repor...	che	10/27/2025, 9:48 A...	⌵
Orchestration Run Logs Spring '24	flow_orchestration_log_ootb_crt_two_four_eight	Find out which orchestration run logs were created...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Orchestration Runs Spring '24	flow_orchestration_run_ootb_crt_two_four_eight	Find out which orchestration runs were created.	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Orchestration Stage Runs Spring '24	flow_orchestration_stage_run_ootb_crt_two_four_ei...	Find out which orchestration stage runs were creat...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Orchestration Step Runs Spring '24	flow_orchestration_step_run_ootb_crt_two_four_eig...	Find out which orchestration step runs were create...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Orchestration Work Items Spring '24	flow_orchestration_work_item_ootb_crt_two_four_e...	Find out which orchestration work items were crea...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Program Definition Spring '24	Program_Definition_sfdcSESv60	Review your analytics with a program-like structur...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Program Definition Summer '24	Program_Definition_sfdcSESv61	Review your analytics with a program-like structur...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Program Item Progress Spring '24	Program_Task_Progress_sfdcSESv60	Report on tasks like exercises, milestones, and out...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Program Item Progress Summer '24	Program_Task_Progress_sfdcSESv61	Report on tasks like exercises, milestones, and out...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Program Progress Spring '24	Program_Progress_sfdcSESv60	Report on program progress. Specific progress on ...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Program Progress Summer '24	Program_Progress_sfdcSESv61	Report on program progress. Specific progress on ...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵
Screen Flows	screen_flows_prebuilt_crt	Find out which flows get executed and how long u...	Other Repor...	autoproc	10/21/2025, 4:51 PM	⌵

Fig :10 Report Type

11.Flows:

←

Flow Builder

Venue Form - V1

?

📄

🔄

⌵

⚙️

Auto-Layout

Last saved on 10/28/2025, 08:42 PM

Active

Run

Debug

Save As New Version

Save

Deactivate

Screen Flow

Start

+

Venue Details

Screen

+

Create Venue Record

Create Records

+

End

Fig:11.1 Creating a flow

15

12. Dashboard:

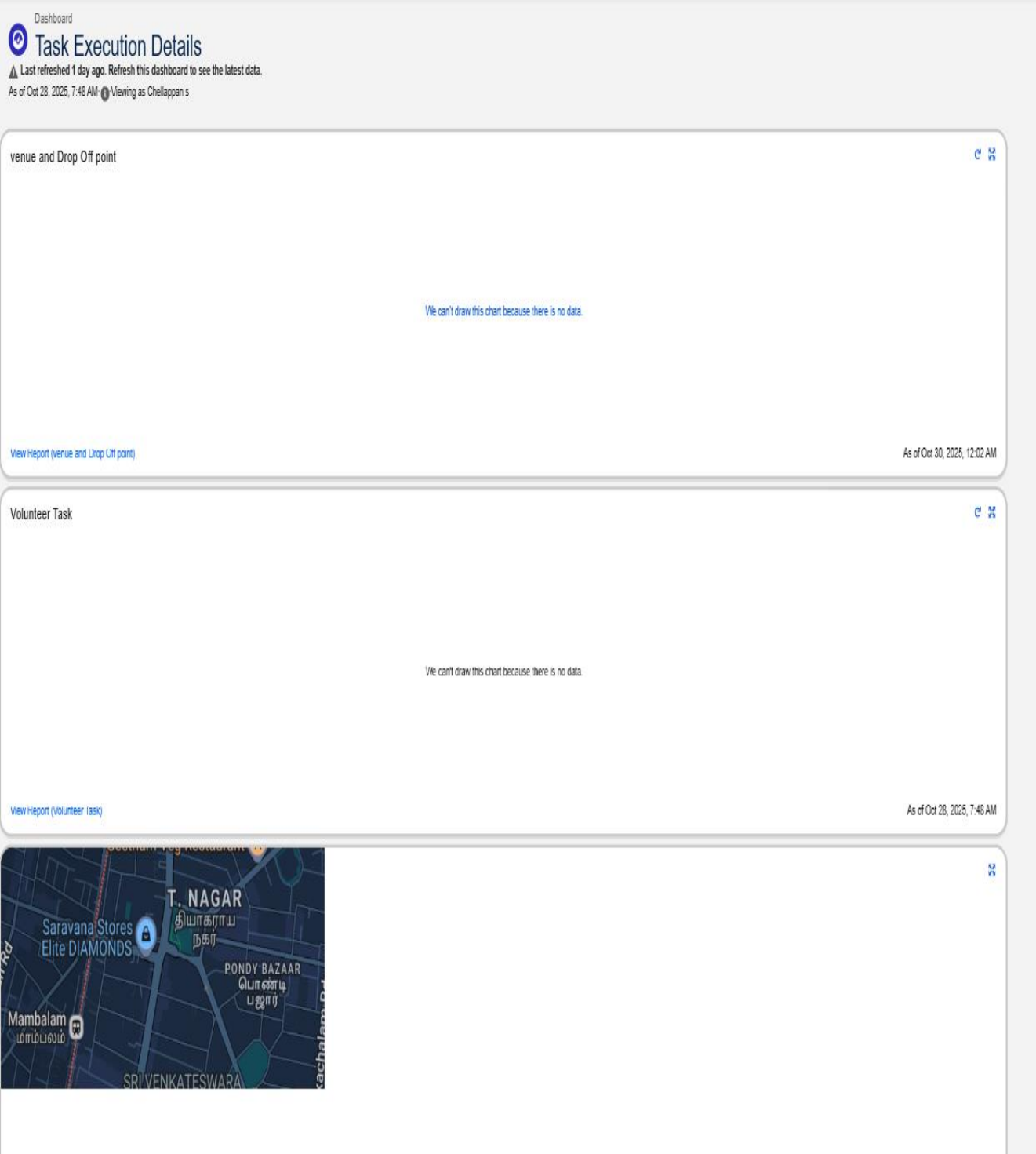


Fig:11.1 Creation of Dashboard

10.EXPECTED OUTCOMES

- Streamlined process of surplus food collection and delivery.
- ☐ Real-time tracking of food movement and volunteer activities.
- ☐ Reduced manual coordination through automated notifications.
- ☐ Improved transparency in the distribution process.
- ☐ Enhanced community engagement and donor satisfaction.

11.ADVANTAGES

- Cloud-based accessibility from any location.
- High data security and role-based access control.
- Complete automation reduces human effort.
- Real-time analytics improves decision-making.
- Encourages social responsibility by reducing food waste.
- Eco-friendly — fully paperless management system.

12.FUTURE ENHANCEMENT

- Integrate **Google Maps API** for live tracking of delivery routes.
- Add **mobile app** for donors and volunteers to manage records easily.
- Implement **AI-based prediction** to forecast food demand areas.
- Introduce **IoT-based sensors** to monitor food temperature during delivery.
- Enable **multi-language support** for broader accessibility.
- Integrate **UPI/Online Donation** options for funding delivery logistics.

13.CONCLUSION

The “**Apply Leftover Food to Poor**” project demonstrates how Salesforce can be leveraged to tackle real-world social challenges through technology. The system automates the end-to-end process of surplus food management — from donor registration to recipient feedback — ensuring transparency, efficiency, and accountability.

This project highlights Salesforce’s versatility beyond traditional CRM, proving its potential in humanitarian and sustainability-focused initiatives. It contributes to reducing food wastage and supporting underprivileged communities effectively.

14.REFERENCES

- 1.** Salesforce Developer Documentation – <https://developer.salesforce.com/docs>
- 2.** Salesforce Trailhead – <https://trailhead.salesforce.com>
- 3.** Apex Automation Tutorials – YouTube
- 4.** Naan Mudhalvan Project Portal – Skill Development Materials
- 5.** Global Food Waste Report – United Nations Environment Programme